

FIG. 1A

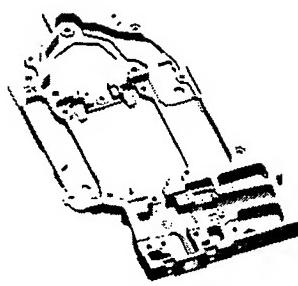


FIG. 1B

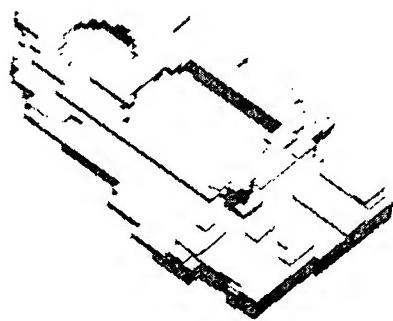


FIG. 1C

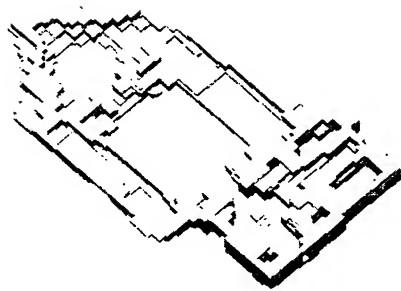
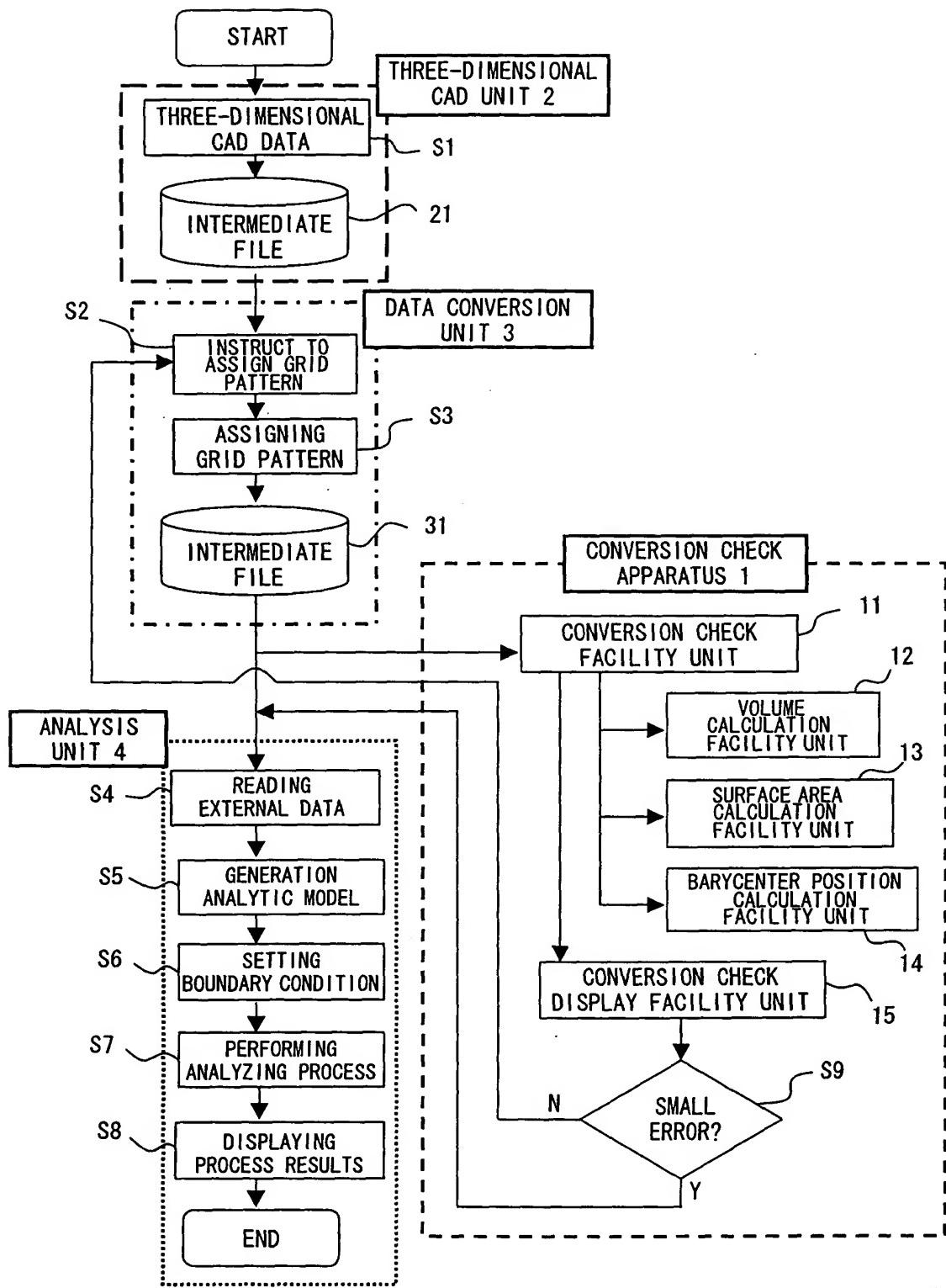


FIG. 1D



F I G . 2

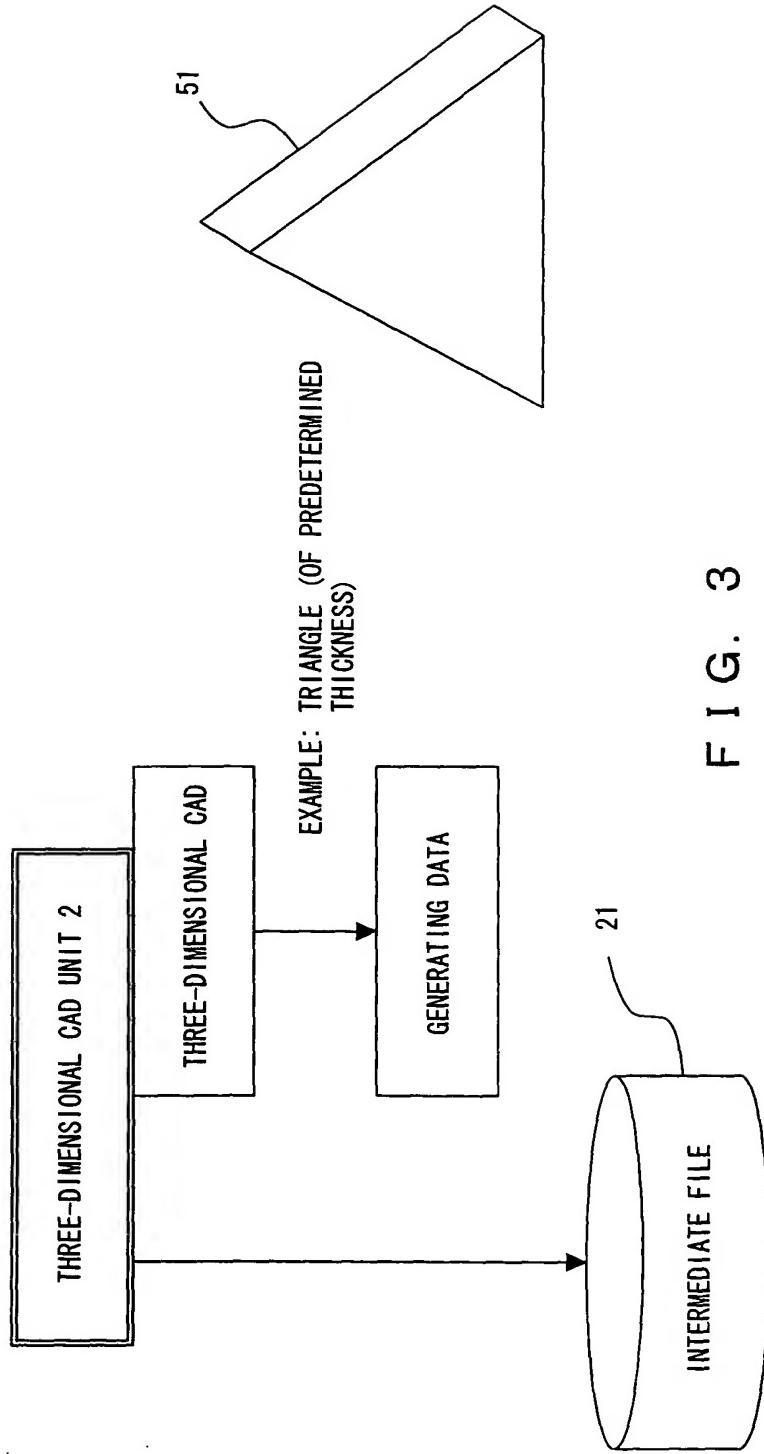


FIG. 3

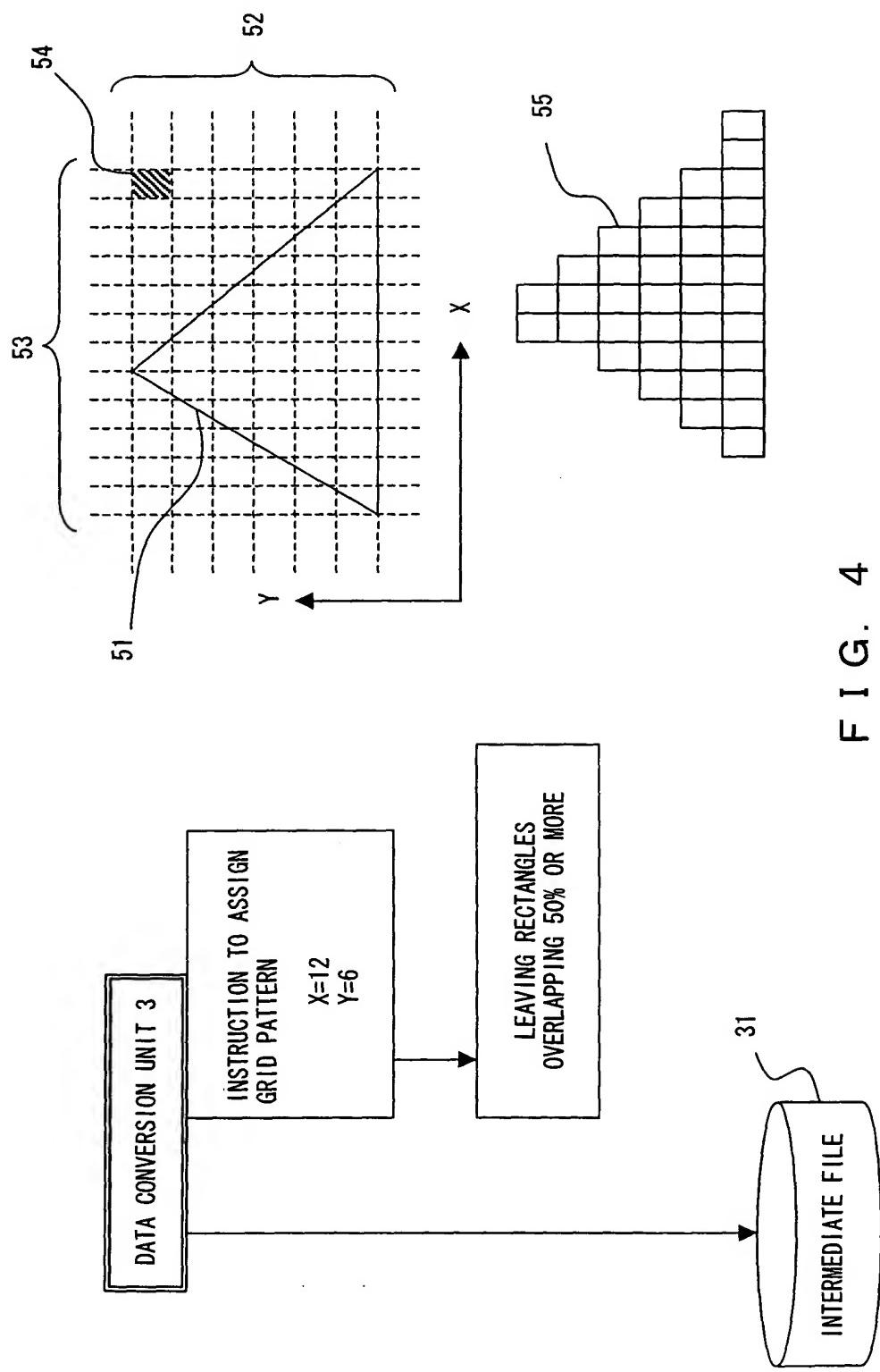
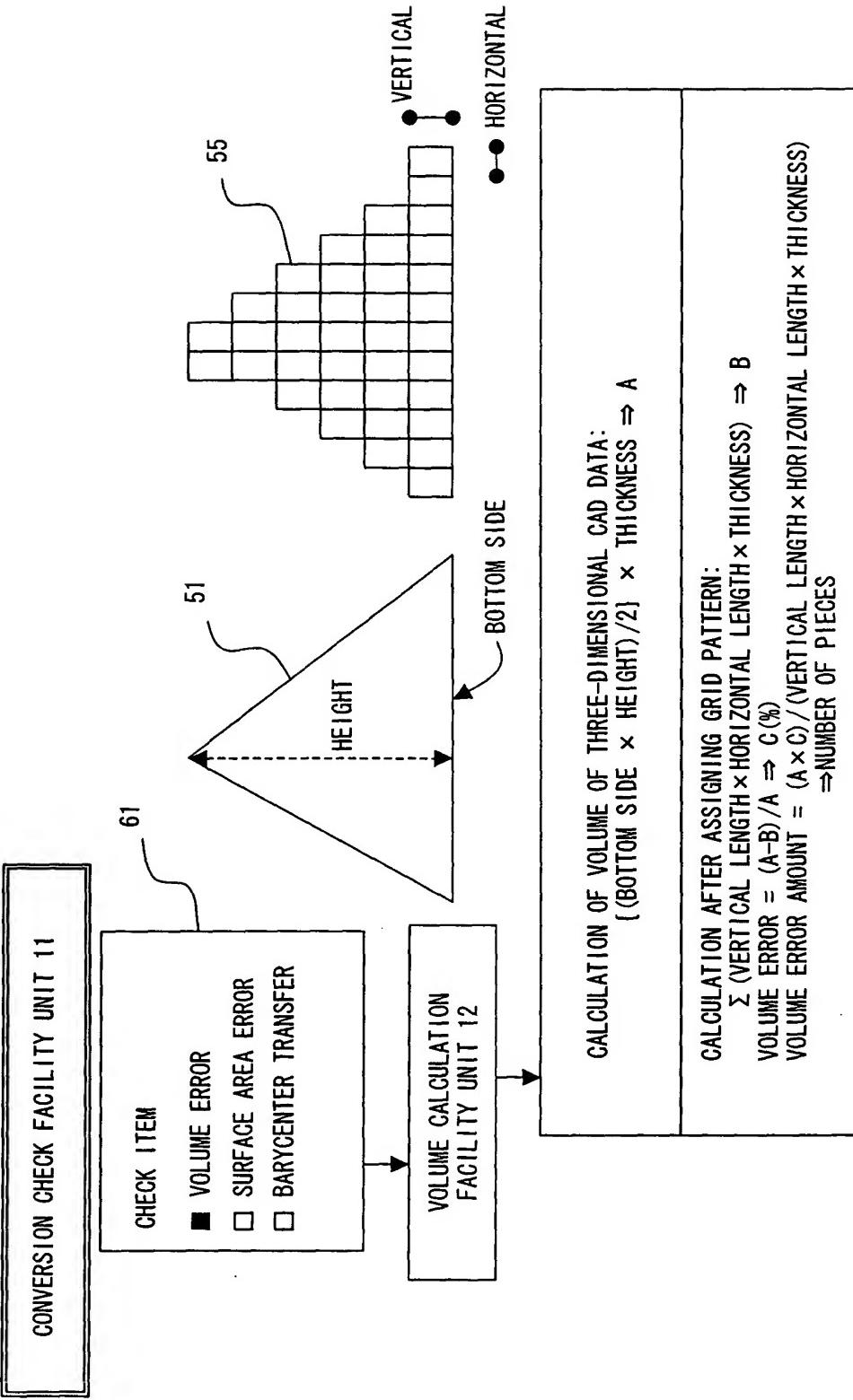


FIG. 4



F 1 G. 5

DATA STRUCTURE AFTER ASSIGNING GRID PATTERN (EXAMPLE)

RECTANGLE NUMBER	COORDINATE NUMBER 1			...			COORDINATE NUMBER 8		
	COORDINATES X1	COORDINATES Y1	COORDINATES Z1	...	COORDINATES X8	COORDINATES Y8	COORDINATES Z8		
1	0.0	0.0	0.0		10.0	10.0	10.0		
2	10.0	0.0	0.0		20.0	10.0	10.0		
3									
4									
5									
.									
n									

FIG. 6 A

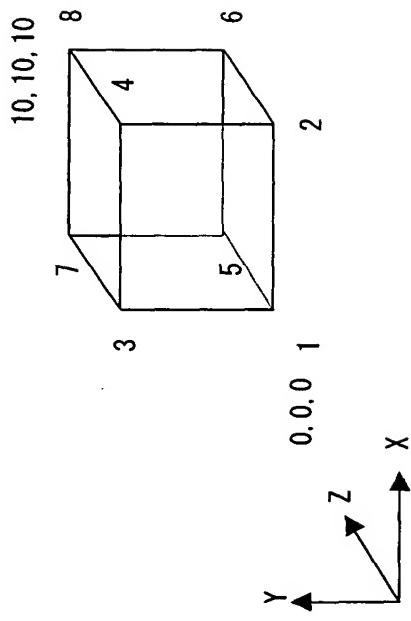


FIG. 6 B

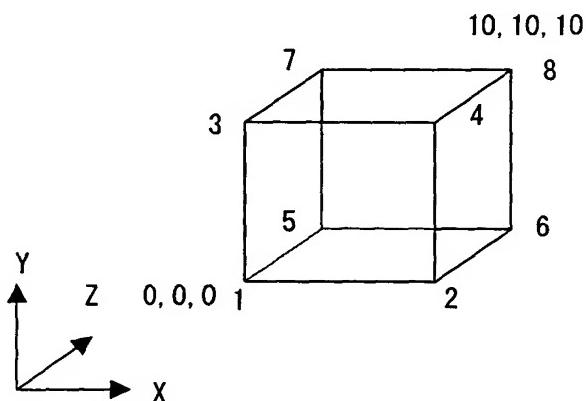
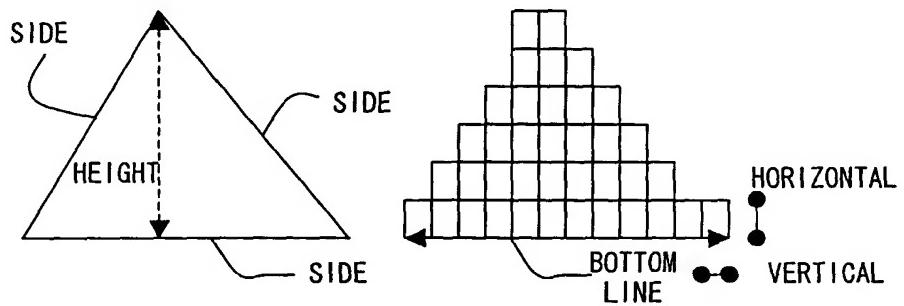
SURFACE AREA
CALCULATION FACILITY
UNIT 13

CALCULATION OF SURFACE AREA OF THREE-DIMENSIONAL CAD:
 $(\text{BOTTOM SIDE} \times \text{HEIGHT}) + \sum (\text{EACH SIDE} \times \text{THICKNESS}) \Rightarrow M$

CALCULATION OF SURFACE AREA AFTER ASSIGNING GRID PATTERN:
 $\sum (\text{VERTICAL LENGTH} \times \text{HORIZONTAL LENGTH} \times 2) + \sum (\text{VERTICAL LENGTH} \times \text{THICKNESS}) \times 2 + \sum (\text{THICKNESS} \times \text{HORIZONTAL LENGTH}) - \text{OVERLAPPING SURFACE} \Rightarrow N$

SURFACE AREA ERROR = $(M-N)/M \Rightarrow 0\%$

SURFACE AREA ERROR AMOUNT = $(M \times 0) / (\text{VERTICAL LENGTH} \times \text{HORIZONTAL LENGTH}) \Rightarrow \text{NUMBER OF PIECES}$

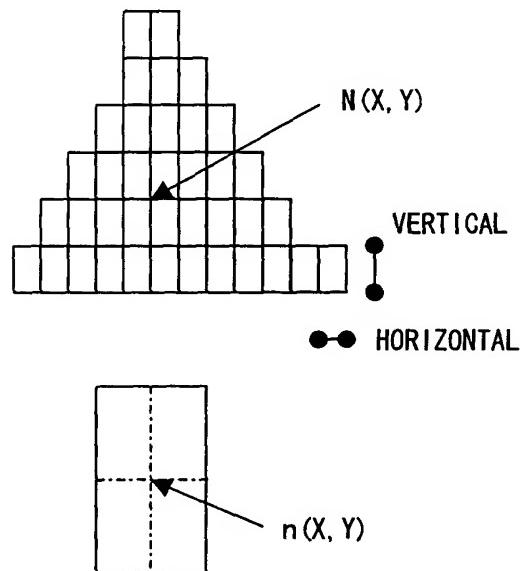
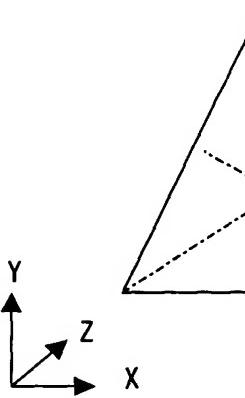


F I G. 7

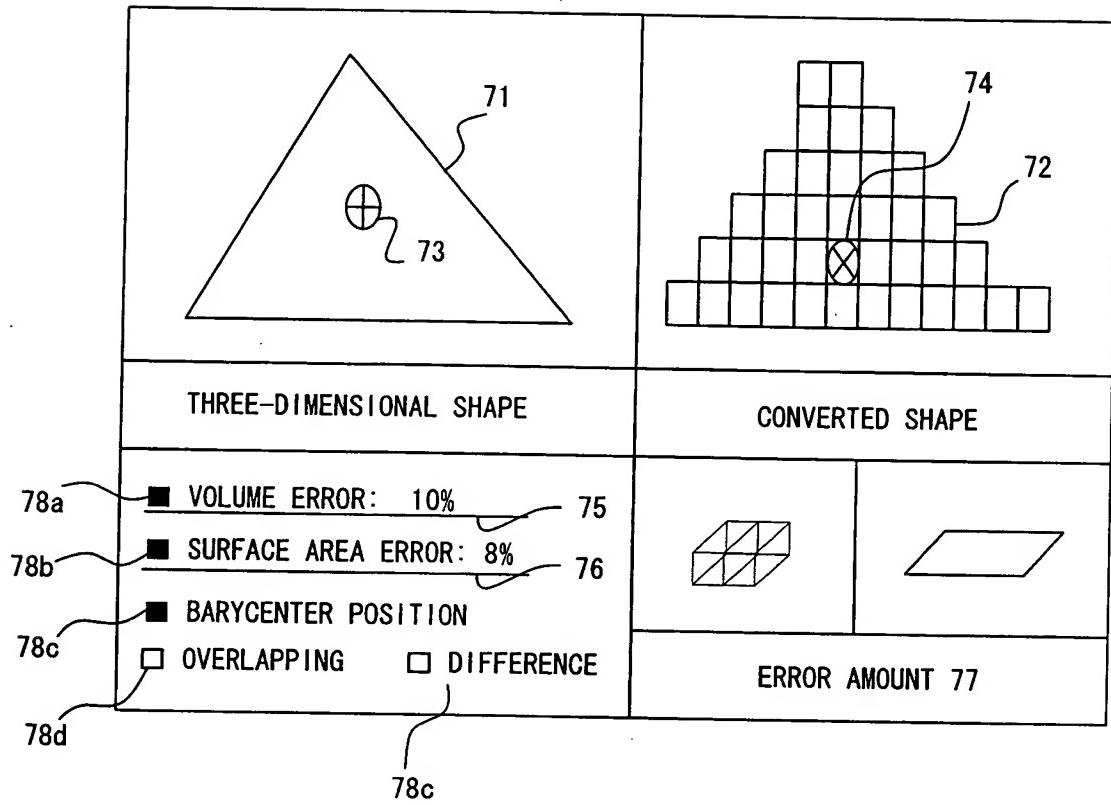
BARYCENTER POSITION
CALCULATION FACILITY
UNIT 14

CALCULATION OF BARYCENTER POSITION OF THREE-DIMENSIONAL CAD DATA:
INTERSECTION OF LINES CONNECTING VERTEX AND CENTER POINT OF
OPPOSING SIDE $\Rightarrow M(X, Y)$

CALCULATION OF BARYCENTER POSITION AFTER ASSIGNING GRID PATTERN:
 $(1/W) \sum \sum n(i)(j) \times (i, j)$
 $W = \sum \sum n(i)(j)$: SUM OF VOLUMES $\Rightarrow N(X, Y)$



F I G. 8



F I G. 9

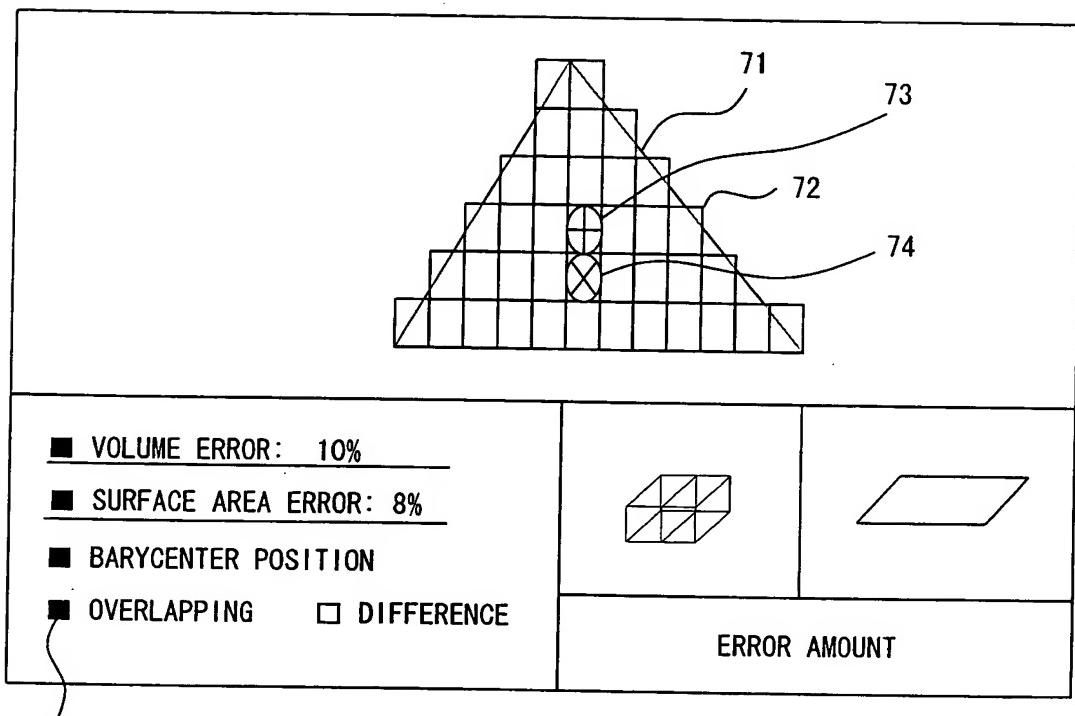
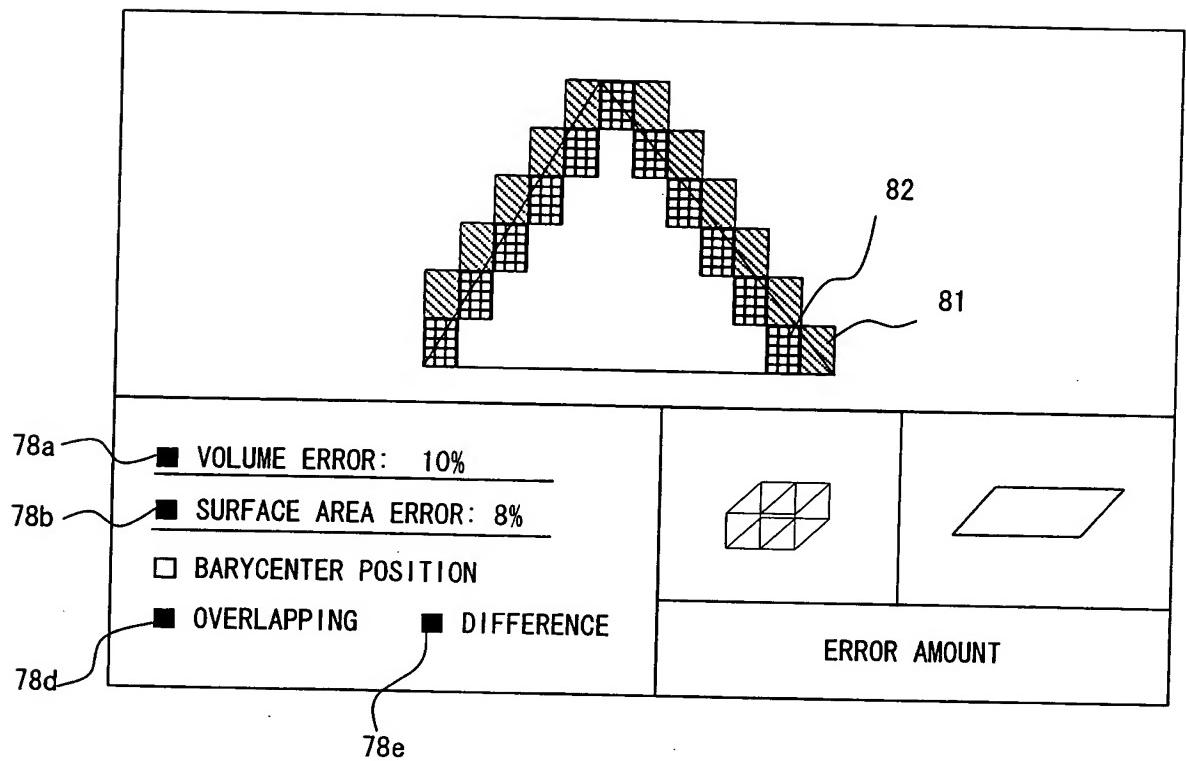
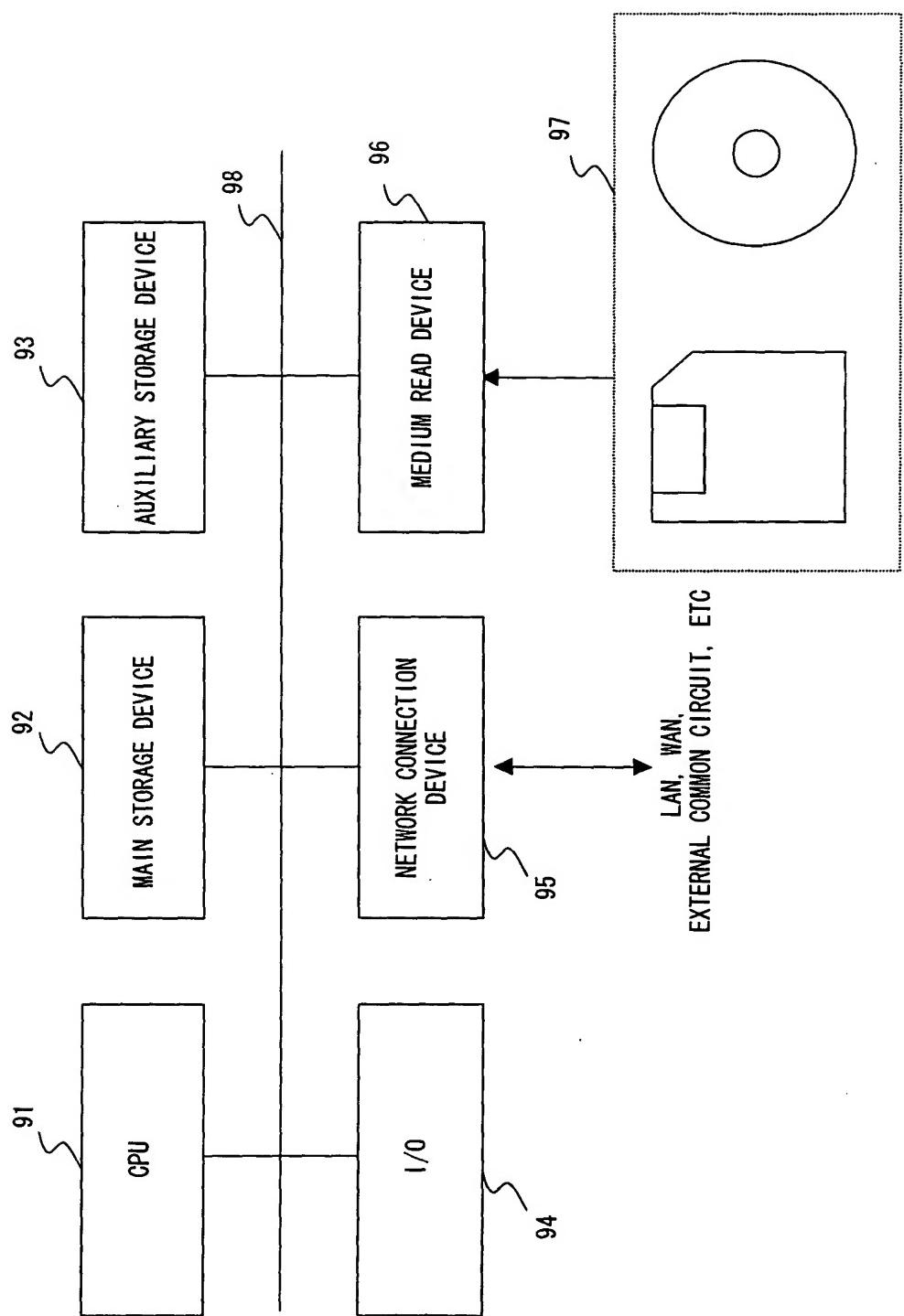


FIG. 10



F I G. 11



F I G. 1 2

